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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,852	06/08/2001	Mark J. Kilgard	NVIDP035/P000321	1313

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EXAMINER
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AMINI, JAVID A

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 05/05/2004

21

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/877,852

Applicant(s)

KILGARD ET AL.

Examiner

Javid A Amini

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 37-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06/08/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

***Response to Arguments***

Applicant's arguments filed February 13, 2004 have been fully considered but they are not persuasive.

Applicant on page 3 lines 13-17 argues that the reference Montrym does not teach the elements of claim 1. Examiner's reply: Interpretation: the application-programmed is an executable program that can be run. The term usually applies to a compiled program translated into machine code in a format that can be loaded into memory and run by a computer's processor.) Therefore, the identifier defined by the application-programmed that each assigned a unique identifier upon initially receiving vertex data in the slots of memory 2550 and the buffers of the first and second set are. **Applicant desires to clarify where does the unique identifier define by the application-programmed?**

Applicant on page 3 in next paragraph argues that the reference Montrym does not teach a "parameter defined according to conventional vertex processing". Examiner's reply: the term "conventional" is a very broad term, and the reference Montrym in fig. 26A and also in paragraph 0295 discloses a conventional vertex processing. **Applicant should specify explicitly the meaning of a "conventional" term that indicated in the claim invention?**

Applicant on page 3 at the bottom of the page argues that the reference Montrym only teach the use of an identifier defined by a program. It does not teach associating that an identifier.... With a parameter defined according to conventional vertex processing, as claimed. Examiner's reply: The reference Montrym in fig. 1 as a prior art illustrates procedures to identify the data from a vertex (ices) by a program application, and associate these identified data with a

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parameter defined according to conventional vertex processing system steps 10, 13, 14, 16 and 18, then be able to display the result step 20.

### ***Drawings***

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. See Fig. 1A of publication of US 6,198,488 B1, and also see Fig 1C of publication of US 2003/0103054 A1.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 37-44 rejected under 35 U.S.C. 102(e) as being anticipated by Montrym et al.

(hereinafter referred as Montrym).

1. Claims 37 and 44.

As to claims 37 and 44, Montrym discloses a graphics pipeline system for graphics processing, comprising: the buffers of the first and second set are each assigned a unique identifier upon initially receiving vertex data (see Fig. 25 illustrates the slots of memory 2550). This unique identifier allows for associating an identifier defined by a programmed. Further, Montrym in Fig.

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4B illustrates a manner in which the method of Fig. 4A is carried out. As shown, each execution thread has an associated program counter 450 that is used to access instructions, or code segments, in instruction memory 452. Such instructions might then be used to operate a graphics-processing module such as an adder 456, a multiplier 454, and/or an inverse logic unit or register 459. Montrym in paragraph 0273 discloses that dispatching refers to determining a starting point of code segment execution based on a received parameter. Montrym in paragraph 0115 discloses that in operation 422, an instruction associated with a thread to be executed during a current cycle is retrieved using a corresponding program counter number. Thereafter, the instruction is executed on the graphics-processing module in operation 424.

2. Claim 38.

As to claims 38 and 39, Montrym discloses in paragraph 0087, that the invention includes a hardware implementation that at least partially employs Open Graphics Library (OpenGL.RTM.) and D3D.TM. transform and lighting pipelines.

3. Claim 40.

As to claim 40, Montrym discloses in paragraph 0086, a standardized programming interface that is provided for application developers to interface with the various hardware features set forth in the present description. Further, a method is thereby provided to expose the functionality of the hardware to application developers in a standardized way (a convention-defined vertex). Such standardized programming interface may provide a more unified and readily supportable way for making applications and hardware work together. One example of an interface with features similar to those set forth hereinabove includes Microsoft.RTM.

Direct X.RTM..

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4. Claim 41.

As to claim 41, Montrym discloses in paragraph 0298, each primitive has a total of nine or ten line equations depending on whether it takes the form of a triangle or a line, respectively.

Again, in the case of the triangle, such line equations include the three line equations, which define the triangle, the four line equations defining the bounding box, and the two line equations, which define the intersections of the plane in which the primitive resides, and near, and far planes. Further Montrym discloses in paragraph 0332, also shown in Fig. 32, a primitive is first received that is defined by a plurality of vertices. Each of such vertices includes a W-value (identifier defined by an application programmable). Upon the receipt of the primitive, the set-up module serves to define lines that characterize the primitive based on the vertices.

5. Claim 42.

As to claim 42, Montrym discloses in paragraph 0086, a standardized programming interface that is provided for application developers to interface with the various hardware features set forth in the present description. Further, a method is thereby provided to expose the functionality of the hardware to application developers in a standardized way (a convention-defined vertex). Such standardized programming interface may provide a more unified and readily supportable way for making applications and hardware work together. One example of an interface with features similar to those set forth hereinabove includes Microsoft.RTM.

Direct X.RTM..

Montrym discloses in paragraph 0087 the embodiment of the invention includes a hardware implementation that at least partially employs Open Graphics Library (OpenGL.RTM.) and D3D.TM. transform and lighting pipelines. OpenGL.RTM. is the computer industry's standard

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application program interface (API) for defining 2-D and 3-D graphic images. With OpenGL.RTM., an application can create the same effects in any operating system using any OpenGL.RTM.-adhering graphics adapter. OpenGL.RTM. specifies a set of commands or immediately executed functions. Each command directs a drawing action or causes special effects.

Montrym discloses in paragraph 0154, the memory 412 capable of storing code segments that each are adapted to carry out the process operations in accordance with the status of the modes. A sequencing module 1206 is coupled between memory 412 and a control vector module 1205 which is in turn coupled to buffer 1202 for identifying a plurality of addresses in memory 412 based on a control vector derived from mode bits 202. The sequencing module 1206 is further adapted for accessing the addresses in memory 412 for retrieving the code segments that might be used to operate transform module 52 to transfer data to an output buffer 1207.

6. Claim 43.

As to claim 43, Montrym discloses in paragraph 0154, the memory 412 capable of storing code segments that each are adapted to carry out the process operations in accordance with the status of the modes. A sequencing module 1206 is coupled between memory 412 and a control vector module 1205 which is in turn coupled to buffer 1202 for identifying a plurality of addresses in memory 412 based on a control vector derived from mode bits 202. The sequencing module 1206 is further adapted for accessing the addresses in memory 412 for retrieving the code segments that might be used to operate transform module 52 to transfer data to an output buffer 1207. Montrym discloses in paragraph 0298, each primitive has a total of nine or ten line equations depending on whether it takes the form of a triangle or a line, respectively.

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Again, in the case of the triangle, such line equations include the three line equations, which define the triangle, the four line equations defining the bounding box, and the two line equations, which define the intersections of the plane in which the primitive resides, and near, and far planes. Further Montrym discloses in paragraph 0332, also shown in Fig. 32, a primitive is first received that is defined by a plurality of vertices. Each of such vertices includes a W-value (identifier defined by an application programmable). Upon the receipt of the primitive, the set-up module serves to define lines that characterize the primitive based on the vertices.

Montrym discloses a graphics pipeline system for graphics processing, comprising: the buffers of the first and second set are each assigned a unique identifier upon initially receiving vertex data (see Fig. 25 illustrates the slots of memory 2550). This unique identifier allows for associating an identifier defined by a programmed. Further, Montrym in Fig. 4B illustrates a manner in which the method of Fig. 4A is carried out. As shown, each execution thread has an associated program counter 450 that is used to access instructions, or code segments, in instruction memory 452. Such instructions might then be used to operate a graphics-processing module such as an adder 456, a multiplier 454, and/or an inverse logic unit or register 459. Montrym in paragraph 0273 discloses that dispatching refers to determining a starting point of code segment execution based on a received parameter. Montrym in paragraph 0115 discloses that in operation 422, an instruction associated with a thread to be executed during a current cycle is retrieved using a corresponding program counter number. Thereafter, the instruction is executed on the graphics-processing module in operation 424.



***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A Amini whose telephone number is 703-605-4248. The examiner can normally be reached on 8-4pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Javid A Amini  
Examiner  
Art Unit 2672

Javid Amini

  
JEFFERY BRIER  
PRIMARY EXAMINER